



## Tulip Bulbs: A Survival Tale



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Close your eyes and let's go back nearly two thousand years. The earliest tulips grew wild then. Their annual life cycle today reflects how they survived conditions where they developed. The summers are hot and dry, the winters are very cold. *Imagine you are a bulb of one of those tulip plants.* How might you survive?

1



The map on top shows where in the world you came from. You are buried at 46 degrees north latitude. Study the map- where are you? Look at the photo taken from outer space. It can get to 40 degrees below zero there. Your ancestors survived because they stayed underground. They popped out at the right time. Now you naturally do the same.

2





Spring is coming. The days are longer each day. The sun feels stronger, too. The snow melts and trickles down to your roots. You push your leaves up out of the soil. It may snow again but your leaves can survive it. (After all, your ancestors developed in this climate.) Look closely at the leaves. What do you notice that might help you survive the coming hot, dry summer?



Your leaves have a waxy coating. This keeps them from losing water from inside. What do you notice about the shape of the leaves? How might they help you get what you need to survive? At the end of the growing season your flower and leaves have dried up and sent all food down into your bulb. Now you are ready to rest (go dormant). Good thing too, because winter is coming!



In the fall, the soil gets colder. People think you are resting underground. But something new is happening . . . slowly. If we dug you up, here's what we'd see. You naturally use your stored energy to start growing roots again. After all, spring would come once more. This is how you spend the winter. Deep inside, you also begin to prepare a tiny shoot and flower bud.



As water and warmth return in the spring, you use the rest of your energy to push leaves up out of the soil. Your flower bud follows . . . and the cycle begins all over!